Amelioration of severe psoriasis with psoriatic arthritis for 20 years after allogeneic haematopoietic stem cell transplantation

A C Woods, M J Mant

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Haematopoietic stem cell transplantation (HSCT) is a recent potential treatment for severe autoimmune disease (AID).[1] Few reports of results in severe psoriasis have been published.[2–10] We report lasting benefit for 20 years after allogeneic HSCT in a patient with disabling psoriatic arthropathy.

A 29 year old man was admitted to hospital in 1985 with petechia. Extensive psoriasis had developed at age 13. In 1984, severe polyarthritis developed with swelling and tenderness of fingers, toes, and right heel. Range of motion was markedly decreased in shoulders and one hip. The right sacroiliac (SI) joint was tender. Radiography showed sclerosis of SI joints and partial fusion on the left. A bone scan showed increased uptake in many joints, including temporomandibular, manubrioclavicular, costotransverse, wrist, finger, hip, ischium, feet, and toes. He was intermittently unable to work and periodically needed crutches. For 9 months he received sodium aurothiomalate (Myochrysine), 50 mg weekly.

Haemoglobin was 102 g/l, falling to 60 g/l, neutrophils 0.2×10^9/l, and platelets $<10\times10^9$/l. Reticulocytes were absent. Bone marrow showed marked hypoplasia. Gold-induced aplastic anaemia was diagnosed. No durable response occurred with high dose steroids, antithymocyte globulin, and ciclosporin. The psoriasis improved partially and the arthritis became quiescent. Allogeneic HSCT from a histocompatible female sibling was performed at 7 months. Pretransplant conditioning was cyclophosphamide 45 mg/kg intravenously × 4 days and 500 cGy total body irradiation. His sibling has never developed psoriasis.

Rapid engraftment and maintenance of blood counts followed. Acute graft versus host disease with skin rash and raised transaminases required ciclosporin and steroids for 7 months. No chronic graft versus host disease developed. His psoriasis improved rapidly, with normal skin within 6 months. There was no active synovitis. He resumed work and an active lifestyle. His psoriasis remained in remission for 12 months. After 5 years he had mild psoriasis of his scalp only and no arthritis. Occasional brief flares of left ankle synovitis, managed with intra-articular steroid injections, occurred over the next few years. Thirteen years after transplantation, more widespread arthritis of wrists, small joints of his hands, feet, and left knee developed. This responded to a course of hydroxychloroquine. He has since had no major disability, and used anti-inflammatory agents only, until this report 20 years after allogeneic HSCT. Radiography shows fusion of SI joints and mild joint space narrowing of several finger joints as the only features of psoriatic arthritis. Bone scan shows no active arthritis.

In 2002 Hinterberger *et al* identified four subjects with psoriasis who had autologous HSCT[1]; all relapsed within 21 months. We have identified nine subjects who had an allogeneic HSCT. With one exception, the longest remissions were 4 years.[2–9] One patient's psoriatic rash remained absent for 17 years after two allogeneic HSCTs; the patient did not have arthritis.[10] Our patient had generalised psoriasis and disabling arthropathy. His psoriasis remitted for 1 year, and his arthritis for 5 years, after unsuccessful immunosuppressive treatment followed by a successful allogeneic HSCT for aplastic anaemia. He has had minimal disability during a further 15 years. Long remissions after HSCT have been reported in other AIDs.[1] However, the number of subjects studied is small and follow up with a good response of the AID exceeded 10 years in only eight subjects. Thus, the potential duration of response is poorly documented. Follow up in our patient of 20 years after HSCT with a good result, is the second longest reported to date.[1] Our patient had a partial response with immunosuppression, a brief complete remission after HSCT, and has since maintained freedom from chronic disability. This report demonstrates that the benefit of HSCT in psoriasis can be prolonged even if the disease relapses.

Authors' affiliations
A C Woods, M J Mant, Division of Hematology and Oncology, Department of Medicine, University of Alberta and University of Alberta Hospital, Edmonton, Alberta, Canada

Correspondence to: Dr M J Mant, 2E3.32 Walter C Mackenzie Health Sciences Center, Department of Medicine, University of Alberta, Edmonton, Alberta, Canada T6G 2R7; Patty.Wark@ualberta.ca

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